

AMENDMENT AND RESPONSE

Serial Number: 09/746,322

Filing Date: December 21, 2000

Title: NOVEL NAPHTHOPYRAN COMPOUNDS, PHOTORESPONSIVE COMPOSITIONS AND LENSES

Page 11

Dkt: 589.011US1

REMARKS CONCERNING THE AMENDMENTS

The above amendments have been made in an effort to more clearly define the present invention and to respond to issues in the Office Action. Antecedent basis for the amendments may be found generally in the specification and, for example, as follows: the original claims.

The above amendments exclude subject matter wherein R_1 and R_2 are naphthyl groups, the claims limiting the compounds to phenyl groups and heteroaryl groups.

A clean copy of the claims appears at the end of this Amendment in compliance with 37 C.F.R. 1.121.

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Page 12

Dkt: 589.011US1

SUMMARY OF THE OFFICE ACTION

Rejections Under 35 U.S.C. 102(b)

Claim 24 has been rejected under 35 USC 102(b) as anticipated by Tanaka et al. (US patent No. 5,349,065).

Claims 1-12 and 21-24 have been rejected under 35 USC 102(b) as anticipated by WO 98/42695.

Claims 1-3, 7-9, 13-16 and 24 have been rejected under 35 USC 102(b) as anticipated by JP 08-295690.

Rejections Under 35 U.S.C. 103(a)

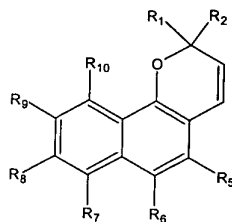
Claims 1, 4-6 and 9-19 have been rejected under 35 U.S.C. 103(a) as obvious over WO 98/42695 in view of Tanizawa (U.S. Patent No. 6,197,225).

REMARKS

Rejections Under 35 U.S.C. 102(b)

Claim 24 has been rejected under 35 USC 102(b) as anticipated by Tanaka et al. (US Patent No. 5,349,065). Claim 24 has been cancelled without prejudice and this rejection is moot.

Claims 1-12 and 21-24 have been rejected under 35 USC 102(b) as anticipated by WO 98/42695. Clarke et al. (WO 98/42695) has been cited against Claims 1 - 12, and 21 - 24. That



rejection is in error as the disclosure of Clark relates to a different class of naphtho[1,2-b]pyran having the structure wherein one of the R₁ and R₂ is an aminoaryl group, R₅ to R₁₀ can a variety of groups including halogen and alkoxy. In one of the examples cited by the examiner, there are two chlorine atoms at the 7- and 9-positions, respectively. In the other sample, there is a fluorine atom at the 7-position. However, it is not specifically claimed and taught in text or examples a combination of a fluorine atom at the 7- or 9-position and an alkoxy group at the 9- or 7-position.

It is apparent that Clarke does not anticipate the amended claims. In addition, as noted in The examples (e.g., page 22, lines 17-19) and specification additionally show that the specific combination of substituents of the fluoro and alkoxy substituents now recited in the claims causes the formation of two absorption peaks which is a beneficial property according to the needs of the art, and enables absorption in a desirable range of the visible spectrum.. (Page 6, lines 16-22). The specific structures now recited in the claims therefore are not obvious from the teachings of this reference as the properties are not obvious from the allowed range of changes taught by the art.

AMENDMENT AND RESPONSE

Serial Number: 09/746,322

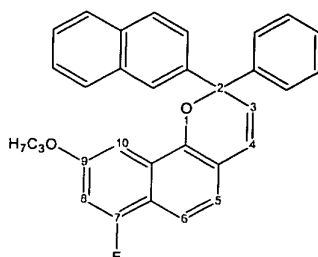
Filing Date: December 21, 2000

Title: NOVEL NAPHTHOPYRAN COMPOUNDS, PHOTORESPONSIVE COMPOSITIONS AND LENSES

Page 14

Dkt: 589.011US1

Claims 1-3, 7-9, 13-16 and 24 have been rejected under 35 USC 102(b) as anticipated by JP 08-295690. This third reference, JP 08-295690, teaches a naphtho[1,2-b]pyran that has 7-

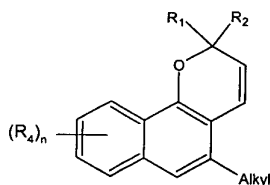


fluoro-9-alkoxy-naphthalene structure, which is combination of substituents of interest in the present invention. However, the reference only covers, in both examples and claims, naphtho[1,2-b]pyrans with 2-naphthyl-2-phenyl substituents. The present claims literally avoid this teaching by excluding naphthyl group from the 2-substituent groups. Those groups are now limited to phenyl rings and heteroaryl rings. The rejection under 35 USC 102(b) is no longer material.

Rejections Under 35 U.S.C. 103(a)

Claims 1, 4-6 and 9-19 have been rejected under 35 U.S.C. 103(a) as obvious over WO 98/42695 in view of Tanizawa (U.S. Patent No. 6,197,225).

The fourth reference, Tanizawa et al. US 6,197,225, relates to naphtho[1,2-b]pyrans



having an alkyl substituent at the 5-position: wherein R₁ and R₂ are aryl or heteroaryl groups, R₄ can be a variety of groups including halogen and alkoxy. In the example cited by the examiner, example 41 in column 76, there is a fluorine atom at the 7-position. Again, it is not specifically claimed and taught in text or examples a combination of a fluorine atom at the 7- or 9-position and an alkoxy group at the 9- or 7-position. This reference therefore does not correct the efficiencies noted above for WO 98/42695.

The Office Action cited the second reference (Clarke et al.) in view of the fourth reference (Tanizawa et al.) to reject Claims 1, 4 – 6, and 9 – 19. It is essentially argued that it is obvious to make a layer of an ophthalmic lens using the polymer-naphthopyran composition. The

AMENDMENT AND RESPONSE

Serial Number: 09/746,322

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Page 15

Dkt: 589.011US1

argument is focused on the application of the naphthopyran compounds. This rejection is ineffective as Clarke is ineffective as a teaching of the photochromic dye. As the dye is not taught, the combination of Tanizawa cannot correct this deficiency. The rejection is in error and must be withdrawn.

Unexpected Results

It is to be noted also that the specification specifically identifies unexpected results in the performance of the absorption spectra of the dyes of the invention. These dyes absorb at wavelengths not taught by the prior art and provide dual peak absorption curves that are desirably located (e.g., see page 6, lines 15-22 and the Examples). On this basis, the rejections must also fail, even if a prima facie case of obviousness is found in the Examiner's view.

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Page 16

Dkt: 589.011US1

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (953)832.9090 to facilitate prosecution of this application.

Respectfully submitted,

Frank Hughes et al

By their Representatives,

MARK A. LITMAN & ASSOCIATES, P.A.

York Business Center, Suite 205

3209 West 76th Street

Edina, MN 55402

(952)832.9090

Date: April 22, 2003

By



Mark A. Litman

Reg. No. 26,390

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to BOX AMENDMENT, Assistant Commissioner of Patents, Washington, D.C. 20231 on April 22, 2003.

Name Mark A. Litman

Signature

